

IN THE CLAIMS

1. (Currently Amended) A reaction system comprising:

- a) a polyisocyanate component having a number averaged isocyanate functionality of at least 1.8 to 4.0;
- b) an organic isocyanate-reactive component comprising at least fifty (50) percent by weight, based on the total weight of the organic isocyanate-reactive component, of an organic polyol having at least one aliphatic tertiary amine group, [[and]] a number averaged hydroxyl equivalent weight of greater than 70 to less than 450, and a number averaged molecular weight of between 240 and 500; and
- c) an isocyanate-reactive foaming agent consisting of water, carboxylic acids, or mixtures thereof, wherein the reaction system is separated into an A component containing the polyisocyanate component and a B component containing the isocyanate-reactive component and the isocyanate-reactive foaming agent, and wherein the A component and B component are blended to achieve an Index of 0.8 to 1.3.

2. (Original) The reaction system according to claim 1 wherein the polyisocyanate component is an aromatic organic polyisocyanate.

3. (Currently Amended) The reaction system according to claim 2 wherein the aromatic organic polyisocyanate is a polymethylene polyphenylene polyisocyanate, and wherein the organic polyol having at least one aliphatic tertiary amine group comprises at least seventy (70) percent by weight of the total weight of the organic isocyanate-reactive component.

4. (Original) The reaction system according to claim 1 wherein the organic isocyanate-reactive component further comprises a polyoxyethylene diol having a number averaged molecular weight of about 190 to about 800.

5. (Original) The reaction system according to claim 4 wherein the organic isocyanate-reactive component further comprises a propoxylated trimethylolpropane having a number averaged molecular weight of about 700 to about 1400.

6. (Original) The reaction system according to claim 1 wherein the reaction system further comprises less than fifteen (15) percent by weight of an internal mold release agent, based on the total weight of the reaction system.

7. (Currently Amended) A reaction system for producing unreinforced molded articles comprising:

- a) a polyisocyanate component comprising at least one organic polyisocyanate having a free organically bound isocyanate group concentration of between about 5% to about 50% by weight of the total weight of the polyisocyanate component;
- b) an organic isocyanate-reactive component comprising at least fifty (50) percent by weight, based on the total weight of the organic isocyanate-reactive component, of an organic polyol having at least one aliphatic tertiary amine group and a number averaged molecular weight of less than 500; and
- c) an isocyanate-reactive foaming agent consisting of water and at least [[on]] one carboxylic acid, wherein the water constitutes a least 10% by weight, based on the total weight of the isocyanate-reactive foaming agent, wherein the reaction system is separated into an A component containing the polyisocyanate component and a B component containing the isocyanate-reactive component and the isocyanate-reactive foaming agent, and wherein the A component and B component are blended to achieve an Index of 0.8 to 1.3.

Claims 8-9 (Cancelled)

10. (Currently Amended) The reaction system according to claim 9 herein 7 wherein the aromatic organic polyisocyanate is a polymethylene polyphenylene polyisocyanate.

11. (Original) The reaction system according to claim 7 wherein the organic polyol has a number averaged hydroxyl equivalent weight of greater than 80 to less than 150 and greater than 1.7 ether linkages per molecule on a number averaged basis.

12. (Original) The reaction system according to claim 11 wherein the organic isocyanate-reactive component further comprises a polyoxyethylene diol with a number averaged molecular weight of about 190 to about 800.

13. (Original) The reaction system according to claim 11 wherein the organic isocyanate-reactive component further comprises a propoxylated trimethylolpropane having a number averaged molecular weight of about 700 to about 1400.

14. (Original) The reaction system according to claim 7 wherein the carboxylic acid is selected from the group consisting of oleic acid, ricinoleic acid, linoleic acid, linolenic acid, adipic acid, fumaric acid, maleic acid, succinic acid, and sebacic acid.

15. (Original) The reaction system according to claim 7, wherein the reaction system further comprises less than fifteen (15) percent by weight of an internal mold release agent, based on the total weight of the reaction system.

16. (Currently Amended) A process for preparing a molded foam comprising the steps of:

- a) providing a reaction system comprising: (i) a polyisocyanate component having a number averaged isocyanate functionality of at least 1.8 to 4.0, (ii) an organic isocyanate-reactive component comprising at least fifty (50) percent by weight, based on the total weight of the organic isocyanate-reactive component, of an organic polyol having at least one aliphatic tertiary amine group and a number averaged hydroxyl equivalent weight of greater than 70 to less than 450, and (iii) an isocyanate-reactive foaming agent consisting of water, carboxylic acids, or mixtures thereof, wherein the reaction system is separated into an A component containing the polyisocyanate component and a B component containing the isocyanate-reactive component and the isocyanate-reactive foaming agent, and wherein the A component and B component are blended to achieve an Index of 0.8 to 1.3;
- b) combining the reaction system to form a liquid reacting mixture;
- c) injecting the liquid reacting mixture into a mold;
- d) allowing the liquid reacting mixture to foam and cure in the mold to form a form an unreinforced molded foam; and
- e) removing the molded foam from the mold, said unreinforced molded foam to have a specific gravity that is greater than 0.4.

Claims 17-18. (Cancelled)

19. (Previously Presented) The process according to claim 16 wherein the mold contains a facing material.

Claim 20. (Cancelled)

21. (Previously Presented) The reaction system of claim 1, wherein the foaming agents consisted solely of water, carboxylic acid, or mixtures thereof.

22. (Previously Presented). The process according to claim 16, wherein the foam's break strain to yield strain ratio is at least about 1.25.

23. (New) The reaction system according to claim 7 wherein the A component and B component are blended to achieve an Index of 0.95 to 1.2.

24. (New) The reaction system according to claim 7 wherein the organic polyol having at least one aliphatic tertiary amine group comprises at least eighty (80) percent by weight of the organic isocyanate-reactive component.

25. (New) The process according to claim 16 wherein providing a reaction system includes providing a reaction system that has a catalytic effect without the use of an isocyanurate catalyst or a conventional catalyst.